

# HOW TO SURVIVE A CRISIS – BIOGEOGRAPHY AND MACROECOLOGY OF EARLY TRIASSIC CONODONTS

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Understanding the evolution of organisms in the context of biotic crises is of paramount importance in anticipating the consequences of the 6<sup>th</sup> mass extinction we are currently experiencing. The Permian/Triassic (PT) boundary crisis is of particular interest as it is the deadliest of the whole Phanerozoic Eon. Following this event, the Early Triassic was long considered a slow and delayed recovery interval. Over the past 15 years, geochemical, sedimentological and palaeontological studies have shown that several global events punctuated this period, such as the late Smithian crisis (Olenekian, Lower Triassic). To study the consequences of the environmental perturbations of the PT crisis and the Early Triassic Epoch on biodiversity, we use conodonts, small jawless marine vertebrates that are mostly studied through their oral elements, i.e. the conodont elements. We focus on patterns and processes responsible for the spatial distribution of Early Triassic conodonts. To do so, we built and analysed a database of global occurrences of Early Triassic conodont species. Through multivariate analyses (ordination, classification, network), biocoresh, i.e. regions with particular association of conodont species, were described for each Lower Triassic substage (Griesbachian, Dienerian, Smithian, Spathian). The processes related to the formation of these biocoresh were assessed *via* niche assembly vs. dispersal theories using PER-SIMPER and DNCI (Dispersion-Niche Continuum Index) methods, which decipher the biotic/abiotic nature of the processes responsible for conodont biogeography in the aftermath of the PT crisis.